REMARKS

Attached hereto as pages 8-11, pursuant to Rule 1.121(c)(1)(ii), is a marked-up version of the amended claims.

If the Examiner believes that contact with applicant's attorney would be advantageous toward the disposition of this case, he is herein requested to call applicant's attorney at the phone number noted below.

The Commissioner is hereby authorized to charge any additional fees associated with this communication or credit any overpayment to Deposit Account No. 50-1446.

Respectfully submitted,

February 21, 2002
Date

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4. (Amended) The switch according to claim 2 ~~or 3~~ wherein~~,~~ said predetermined characteristic is the absence of said flow for said period T_{wait}..

5. (Amended) The switch according to claims 2 ~~–4~~ wherein said period T_{wait} is 0.

6. (Amended) The switch according to ~~any one of~~ claims 2 ~~5~~ wherein said period T_{WAIT} is different for each of P_1-P_3.

7. (Amended) The switch according to ~~any one of~~ claims 1 ~~to 6~~ wherein said predetermined characteristic is a predetermined reduction in the rate of flow at said inputs.

8. (Amended) The switch according to ~~any one of~~ claims 1 ~~to 6~~ wherein when said flows relate to communication signals, said predetermined characteristic is a predetermined bit error rate, or signal to noise ratio.

9. (Amended) The switch according to ~~any one of~~ claims 3 ~~to 8~~ wherein said dummy flow means is in the form of a generator for generating a flow of the same type as the flow presented to the inputs of said switch.

10. (Amended) The switch according to ~~any one of~~ claims 3 ~~to 8~~ wherein said dummy flow means includes means for sampling and subsequently replicating the flow presented to the inputs of the switch.

11. (Amended) The switch according to ~~any one of~~ claims 1 ~~to 10~~ wherein said detection means is further able to detect the absence of said predetermined characteristic after said control means has internally diverted said other of the first flow and second flow to the output of the remaining one of P_1-P_3, whereupon said control means rediverts said other of the first flow and second flow to be presented to the output of the other or one of P_1-P_3, as the case may be..

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12. (Amended) The switch according to ~~any one of~~ claims 1 ~~to 11~~ further including a fourth port P_4 having an input and an output in communication with said control means for allowing external control of said control means including to control said control means to force a change in state of said switch.

13. (Amended) The switch according to ~~any one of~~ claims 1 ~~to 12~~ further including signal generating means for generating a status signal containing information relating to the status of said switch including any faults detected by said detecting means and wherein said status signal is delivered to an output of one of said ports P_1-P_4.

15. (Amended) The switch according to claims 13 ~~or 14~~ wherein said control means is configured to add or embed said status signal to the flow delivered to the output of said other or said remaining one of said ports P_1-P_3, or the output of port P_4.

16. (Amended) A distributed network protection switching system for a network having at least first and second sites (X_1, X_2) a first channel C_1 to allow bidirectional transfer of flows between said sites; and at least one further channel C_2 to provide an alternate route for bidirectional transfer of flows between said sites, each channel having a unidirectional incoming link and an unidirectional outgoing link; the system including at least:

a first switch (S_1) and a second switch (S_2), each of S_1, and S_2 being in accordance with ~~any one of~~ claims 1-~~15~~, S1 coupled to the first site (X_1) so that a flow out of X_1 is presented to the input of any one of P_1-P_3 of S_1 and a flow into X_1 is delivered from the output of said one of P_1-P_3 of S_1;
S_2 coupled to X_2 so that a flow out of X_2 is presented to the input of any one of P_1-P_3 of S_2 and a flow into X_2 is delivered from the output of said one of P_1-P_3 of S_2;
an outgoing link of channel C_1, viewed from X_1, connected between the output of an other of P_1-P_3 of switch S_1 and the input of an other of P_1-P_3 of switch S_2;
an incoming link of channel C_1, viewed from site X_1, connected between the input of

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said other of P_1-P_3 of switch S_1 and the output of said other of P_1-P_3 of switch S_2;

an outgoing link of channel C_2, viewed from site X_1, connected between the output of the remaining one of P_1-P_3 of switch S_1 and the input of the remaining one of P_1-P_3 of switch S_2 and, an incoming link of channel C_2 viewed from site X_1 being connected between the input of the remaining one of ports P_1-P_3 of switch S_1 and the output of the remaining one of P_1-P_3 of switch S_2;

whereby, in use, upon said detection means of one of S_1 and S_2 detecting a predetermined characteristic of a flow presented at its input from channel C_1 internally diverts the flow directed to the output of the port containing that input to the output of the remaining port thereby causing the detection means of the other one of S_1 and S_2 to detect the absence of a flow at the input of the other one of switches S_1 and S_2 from channel C_1 so that the flow delivered to the output of the other port of switch S_2 is diverted to the output of the remaining port of switch S_2 thereby switching the channel of communication between the first and second sites X_1,X_2 from channel C_1 to channel C_2.

17. (Amended) A network with distributed switching protection the network including at least:

first and second sites (X_1, X_2) for transmitting and receiving a flow;

a first channel to allow bidirectional transfer of flows between said sites;

at least one further channel to provide an alternate route for bidirectional transfer of flows between said sites, each of said first channel and said at least one further channel having a unidirectional incoming link and a unidirectional outgoing link;

a first switch (S_1) and a second switch (S_2), each of S_1, and S_2 being in accordance with ~~any one of~~ claims ~~1-15~~;

S1 coupled to the first site (X_1) so that a flow out of X_1 is presented to the input of any one of P_1-P_3 of S_1 and a flow into X_1 is delivered from the output of said one of P_1-P_3 of S_1;

S_2 coupled to X_2 so that a flow out of X_2 is presented to the input of any one of P_1-P_3 of S_2 and a flow into X_2 is delivered from the output of said one of P_1-P_3 of S_2;

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the outgoing link of channel C_1, viewed from X_1, connected between the output of an other of P_1-P_3 of switch S_1 and the input of an other of P_1-P_3 of switch S_2;

the incoming link of channel C_1, viewed from site X_1, connected between the input of said other of P_1-P_3 of switch S_1 and the output of said other of P_1-P_3 of switch S_2;

the outgoing link of channel C_2, viewed from site X_1, connected between the output of the remaining one of P_1-P_3 of switch S_1 and the input of the remaining one of P_1-P_3 of switch S_2 and, the incoming link of channel C_2 viewed from site X_1 being connected between the input of the remaining one of ports P_1-P_3 of switch S_1 and the output of the remaining one of P_1-P_3 of switch S_2;

whereby, in use, upon said detection means of one of S_1 and S_2 detecting a predetermined characteristic of a flow presented at its input from channel C_1, said one of S_1 and S_2 internally diverts the flow directed to the output of the port containing that input to the output of the remaining port thereby causing the detection means of the other one of S_1 and S_2 to detect the absence of a flow at the input of the other one of switches S_1 and S_2 from channel C_1 so that the flow delivered to the output of the other port of switch S_2 is diverted to the output of the remaining port of switch S_2 thereby switching the channel of communication between the first and second sites X_1,X_2 from channel C_1 to channel C_2.

21. (Amended) The method according to ~~any one of~~ claims 18~~-20~~ wherein said monitoring step includes monitoring said inputs to detect a predetermined reduction in the rate of flows at said inputs.

22. (Amended) The method according to ~~any one of~~ claims 18~~-20~~ wherein, when said flows are in relation to communication signals, said monitoring step includes monitoring said inputs to detect a predetermined bit error rate, or signal to noise ratio.

23. (Amended) The method according to ~~any one of~~ claims 18~~-20~~ wherein said monitoring step includes monitoring said inputs to detect an absence of the flow at said inputs.